



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

## MEMORANDUM

**SUBJECT:** Science Review in Support of label amendment for Zoecon 9010GR (EPA Reg. No. 2724-451) Containing 1.5% of the insect growth regulator (IGR) (S)-Methoprene. (Chemical No. ) As Its Active Ingredients. Review Product Performance (Efficacy). DP Barcode D ; MRID No. 460546-01; MRID No. 460546-01.

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**THROUGH:** Roger Gardner, Senior Biologist.  
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**TO:** Todd Peterson, Regulatory Action Leader  
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## ACTION REQUESTED

Wellmark International is proposing a label amendment on the Consumer Version of the Master Label of the product Zoecon 9010GR (EPA Reg. No. 2724-451) to extend its residual mosquito larvicide efficacy claim from 21 to 30 days. The proposed extension is based on the maximum application rate of 20 pounds/acre on the current approved label. Wellmark International submitted 2 product performance (efficacy) studies (non-guidelines) conducted on *Culex quinquefasciatus* (MRID No. 460546-1) and *Aedes aegypti* (MRID No. 460546-2) in support of this action.

## RECOMMENDATIONS AND CONCLUSIONS

The submitted product performance data are **acceptable** to support added claim and use directions for optional 30 days control of mosquitoes based on maximum application rate of 20 pounds per acre. The proposed extended product performance claim on the Master Label is consistent with results derived from the efficacy study conducted on 2 mosquito species, *Culex quinquefasciatus* (MRID 460546-01) and *Aedes aegypti* (MRID 460546-02).

- (i) clearly and explicitly state that use of the product WILL NOT ensure 100% mortality of the insects in a treated area;
- (ii) clearly and explicitly state that use of the product WILL NOT prevent re-infestation of any pest listed on the product label in any treated area;

## STUDY SUMMARY

- 1a. Evaluation of the effectiveness of the granular mosquito larvicide, Zoecon 9010GR (EPA File Symbol No. 2724-451), against *Culex quinquefasciatus* (MRDI 460546-01).

The results from infestations at 3, 15, 30, and 60 days after application of the product at a dose of 1.5 grams per 100 liters of water, which is equivalent to the maximum application rate of 20 lbs. per acre, achieved percent efficiency of 100%, 100%, 94%, and 89%, respectively.

- 1b. Evaluation of the effectiveness of the granular mosquito larvicide, Zoecon 9010GR (EPA File Symbol No. 2724-451), against *Aedes aegypti* (MRDI 460546-02).

The results from infestations at 3, 15, 30, and 60 days after application of the product at a dose of 1.5 grams per 100 liters of water, which is equivalent to the maximum application rate of 20 lbs. per acre, achieved percent efficiency of 100%, 100%, 93.2%, and 87.5%, respectively.

Both studies were conducted in sequence and under identical laboratory conditions in compliance with the standards of Good Laboratory Practice, pursuant to the provisions of Decree No. 321, of July 28, 1997. Room temperature was maintained at 26 to 30°C, with a relative humidity of 55 to 56%. Larva were fed on a specific diet.

The experiment consisted of a control with no Zoencon XR-G, and 2 treatments; each treatment was replicated 3 times, using Zoecon XR-G at a dose of 1.5 grams per 100 liters, diluted in water, which is equivalent to 20 pounds per acre. A container of 0.105 cu. m. was used as test area. For each replication, 25 larvae between developmental stage 2 and 3 were inoculated at 3, 15, 30, and 60 days after application of the product, and remained exposed to the treatment until the last metamorphosis. Results consisted of number of dead and living insects under each treatment.

Table 1a.

Test results of the effectiveness of the granular mosquito larvicide, Zoecon 9010GR (EPA File Symbol No. 2724-451), against *Culex quinquefasciatus* (MRDI 460546-01).

Application rate of Zoecon XR-G	Treatment Results: % mortality			
	3 days	15 days	30 days	60 days
1.5 g/100 L	100%	100%	94.1	89.2

Table 1b.

Test results of the effectiveness of the granular mosquito larvicide, Zoecon 9010GR (EPA File Symbol No. 2724-451), against *Aedes aegypti* (MRDI 460546-02).

Application rate of Zoecon XR-G	Treatment Results: % mortality			
	3 days	15 days	30 days	30 days
1.5 g/100 L	100%	100%	93.2%	87.5%

## BACKGROUND AND REVIEWER COMMENTS

The Master label of this product includes a Commercial Version for the commercial product, ALTOSID XRG, sold to professional mosquito abatement districts and public health departments, and a consumer version for the consumer products PRE-STRIKE and VET-KEM Mosquito Larvicide Granules Siphotrol, sold through retail channels, and veterinary clinics, respectively. Section “**Application Rates:** *Aedes*, *Anopheles* and *Psorophora* spp.: Apply **Zoecon 9010 GR** at 5-10 lb/acre (5.6-11.2 kg/ha). *Culex*, *Culiseta*, *Coquillettidia*, *Mansonia* spp., and *Chironomini* (midges). Apply **Zoecon 9010 GR** at 10-20 lb/acre (11.2-22.4 kg/ha).” seems to indicate that a distinction between application rates is dependent upon mosquito species. As shown in the efficacy tests submitted for evaluation, the amended label for alternate brand name Pre-Strike, should indicate that application rates of Zoecon 9010 GR at 10-20 lb/acre (11.2 - 22.4 kg/ha) is also effective on *Aedes* spp.



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